

f. updating said supplied set of entries in response to the selected operator, wherein said updated supplied set of entries includes only those entries from the database that may be combined in a query with the selected entry and the selected operator to produce at least one valid result;

g. selecting one of said updated supplied set of entries;

h. updating said supplied set of valid results according to a query based on the selected entries and the selected operator; and

i. while said supplied set of valid results is not the desired result, repeating steps d. through h., based on all previously selected entries and operators, to select an additional operator and an additional entry for the database search query, and to update said supplied set of valid results.

REMARKS

An Office Action was mailed on July 19, 2004. Claims 1 – 7, 9 – 18 and 20 - 26 are pending. Applicant proposes revisions to FIGs. 4a – 4d, amends the specification, amends claims 1, 3 - 5, 7, 10, 11, 15, 16, 18, 20 – 22, and 26, and adds new claim 27. No new matter is added. Support for the claim amendments may be found, for example, in Applicant's specification at page 12, line 11 through page 15, line 13 and with reference to FIGs. 4a through 4d.

EXAMINER INTERVIEW

Applicant thanks the Examiner for participating in an interview on November 23, 2004 to discuss Applicant's invention in light of the prior art references cited in the Office Action of July

19. Applicant notes that the discussion that resulted from this interview was of great assistance in preparing the present Response.

AMENDED SPECIFICATION, REVISED DRAWING

In preparing this Response, with reference to the example illustrated by FIGs. 4a – 4d and the associated description of FIGs. 4a – 4d in the specification, Applicant discovered a number of obvious errors and ambiguities in view of the description of the invention throughout the specification. Applicant therefore proposes revisions to FIGs. 4a – 4d and an accompanying amendment of the specification in order to correct these errors and ambiguities. The proposed revisions to FIGs. 4a – 4d are indicated in the attached drawing replacement sheets, provided in both marked-up and clean copies. Applicants respectfully request that the proposed revisions be accepted, and that the amendment to the specification be entered.

REJECTION UNDER 35 U.S.C. § 112

Claims 1 and 22 are rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite. Specifically, the Examiner finds that references made to posterior steps cause confusion. Applicant amends claims 1 and 22 to eliminate the references to posterior steps, and respectfully requests that the rejection be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

Claims 1-7, 9, 11 - 18 and 20-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Wasilewski (U.S. Patent 6,374,275) in view of Ginsberg (“A unified approach to automatic indexing and information retrieval”), Wilson et al. (U.S. Patent No. 5,963,938 and Bowman et al. (U.S. Patent 6,006,225). Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Wasilewski in view of Ginsberg, Wilson, Bowman and Carey et al. (U.S.

Patent 5,995,982). Applicant amends claims 1, 7, 10, 11, 15, 16, 18, 20 – 22, and 26 to further clarify the nature of his invention, and respectfully traverses these rejections.

In amended independent claim 1, for example, Applicant claims:

1. A method for displaying the progress and results of a database search until a desired result is displayed, said method comprising the steps of:
 - a. displaying a set of entries from a database and a set of operators, wherein ones of said displayed set of entries and ones of said displayed set of operators may be selected to form a database search query for producing valid results
 - b. selecting an initial entry of said displayed set of entries;
 - c. displaying a set of valid results from a query based on said selected entry;
 - d. updating said set of displayed operators based on said selected entry, wherein said updated set of displayed operators includes only those operators from the set of operators that may be combined in a query with the selected entry and at least one of the set of entries from the database to produce at least one valid result;
 - e. selecting an operator from the updated displayed set of operators;
 - f. updating said displayed set of entries in response to the selected operator, wherein said updated displayed set of entries includes only those entries from the database that may be combined in a query with the selected entry and the selected operator to produce at least one valid result;
 - g. selecting one of said updated displayed set of entries;
 - h. updating said displayed set of valid results according to a query based on the selected entries and the selected operator; and
 - i. while said displayed set of valid results is not the desired result, repeating steps d. through h., based on all previously selected entries and operators, to select an additional operator and an additional entry for the database search query, and to update said displayed set of valid results.

Applicant respectfully submits that all of the cited art, and in particular the Wasilewski, Ginsberg, Wilson and Bowman references, individually and in combination, fail to teach or suggest the claimed invention.

Wasilewski discloses a pick-list generator for a keyboardless environment that is driven by context-sensitive pop-up displays (see, e.g., column 2, lines 9 – 51 of Wasilewski). The

Examiner suggests that Wasilewski discloses Applicant's claimed limitation relating to the display of entries, operators and results, but acknowledges that Wasilewski fails to disclose Applicant's claim limitations relating to the updating of a displayed result based on the selection of an entry.

Ginsberg discloses a graphical user interface that displays and updates a result based on a query entry (see, e.g., Fig. 1 on page 47 of Ginsberg). The Examiner acknowledges however that Ginsberg and Wasilewski fail alone and in combination disclose Applicant's claim limitations relating to updating a displayed set of operators based on a selected entry.

The Examiner suggests that Wilson discloses "displaying operators and operands and updating (logical) operators to limited possible operators based on a selected attribute or entry" (with reference to Figs. 3, 9 and 12, column 2, lines 15 – 20, column 5, lines 58 - 62, column 7, lines 2 – 6, column 10, lines 8 – 15 and column 18, lines 31 – 36 of Wilson). Applicant respectfully submits, however, that Wilson fails to disclose or suggest the operator updating limitations as specifically claimed by Applicant.

According to Applicant's amended independent claim 1, a set of displayed operators is updated to include only those operators from the set of operators that "may be combined in a query with [a previously] selected entry and at least one of the set of entries from the database to produce at least one valid result". With reference for example to Applicant's Fig. 4b, once the word entry "onion" has been selected, each of the displayed operations (AND, NOT, OR and EXCL.OR) can be combined with at least one of the word entries (flavour, onion, paprika, pork, potato, salt, tomato and water) to produce at least one result (soup 2 or soup 3).

Wilson discloses an automatic context-organizing query interface including a dialog box that presents inter alia selectable field names, selectable field entries and selectable logical

operators for creating a query (see, e.g., abstract and Fig. 12 of Wilson). Wilson discloses that the logical operators may be limited based on selection of a particular field or field type (see, e.g., column 10, lines 8 – 15 and column 18, lines 31 – 36 of Wilson). For example, Wilson suggests that the types of logical operators appropriately used with a field type of “text” may differ widely from the types of logical operators appropriately used with a field type of “accounting numbers”.

In sharp contrast to the method disclosed by Wilson, however, Applicant’s invention as claimed in claim 1 requires that operators be updated on the basis of a selected entry (i.e., a field value rather than a field or field type), and on the basis of the added condition that each operator on the updated operator list can be combined with the selected entry and an additional entry in the entry list to produce an updated result. Applicant respectfully submits that Ginsberg, Wasilewski and Wilson, alone or in combination, fail to disclose or suggest these limitations of Applicant’s claimed step for updating the operator list.

The Examiner further acknowledges that the combination of Ginsberg, Wasilewski and Wilson fails to disclose Applicant’s claim limitations relating to updating the displayed set of entries, but suggest that Bowman discloses a method for “eliminating inappropriate items” (with reference to column 2, line 28 through column 3, line 30, column 4, lines 32 – 35, column 9, lines 42 – 45 and column 12, lines 42 – 67 of Bowman).

Bowman discloses a search engine that suggests additional search terms based on previously selected terms (see, e.g., abstract of Bowman). Bowman’s method operates by maintaining a correlation table that indicates the frequency with which specific terms have appeared together in previous queries.

In sharp contrast to the method disclosed by Bowman, Applicant's invention as claimed in claim 1 requires that the list of entries be updated in response to selecting an operator, on the basis of both the previously selected entry and the selected operator, and subject to the added condition that each entry on the updated entry list can be combined with the previously selected entry and the selected operator in the displayed operator list to produce a valid result (see, e.g., page 13, line 21 through page 14, line 9 of Applicant's specification, with reference to Figs. 4b, 4c). Applicant respectfully submits that Ginsberg, Wasilewski, Wilson and Bowan, alone or in combination, fail to disclose or suggest these limitations of Applicant's claimed step for updating the entry list.

Accordingly, Applicant submits that, for at least the above-cited reasons, Applicant's amended independent claim 1 is not made obvious by the cited references. Applicant substantially repeats these arguments to submit that amended independent claims 18, 22 and 26, which disclose limitations that are analogous to the cited limitations of claim 1, are also nonobvious in view of the cited references. Accordingly, Applicant submits that amended independent claims 1, 18, 22 and 26 are allowable. As claims 2 – 7, 9 – 17, 20, 21 and 23 – 25 each depend from one of allowable claims 1, 18, 22 and 26, Applicant further submits that claims 2 – 7, 9 – 17, 20, 21 and 23 – 25 are also allowable for at least this reason.

CONCLUSION

An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that claims 1 – 7, 9 – 18 and 20 – 27, consisting of independent claims 1, 18, 22, 26 and 27 and the claims dependent therefrom, are in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for

any reason the Examiner should consider this application not to be in condition for allowance,
the Examiner is respectfully requested to telephone the undersigned attorney at the number listed
below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'T. Bean', written over a horizontal line.

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(REPLACEMENT SHEET)

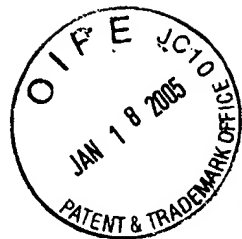


FIGURE 4a

WORD	OPERATION	RESULT	HISTORY
flavour	AND	soup 1	
onion	NOT	soup 2	
paprika	OR	soup 2	
pork	EXCL. OR	soup 2	
potato			
salt			
tomato			
water			

FIGURE 4b

WORD	OPERATION	RESULT	HISTORY
flavour	AND	soup 2	onion
onion	NOT	soup 3	
paprika	OR		
pork	EXCL. OR		
potato			
salt			
tomato			
water			

FIGURE 4c

WORD	OPERATION	RESULT	HISTORY
flavour	AND	soup 2	onion
onion	NOT	soup 3	but not
pork	OR		
potato	EXCL. OR		
salt			
tomato			
water			

FIGURE 4d

WORD	OPERATION	RESULT	HISTORY
flavour	AND	soup 2	onion
onion	NOT		but not
pork	OR		pork
potato	EXCL. OR		
salt			
tomato			
water			